

Investigate the charging behavior of a conducting solid sphere

최창용, 임도진<sup>†</sup>

부경대학교

(dj-im@pknu.ac.kr<sup>†</sup>)

As the research subject of the microfluidics, ECD(Electrophoresis of Charged Droplet) has been studied by many researchers. However, many studies are focused on droplet such as the ionic liquid and aqueous droplet. In this work, we investigated the charging characteristics of a conducting solid sphere (glassy carbon sphere). For the systematic research, sphere size, applied voltages, viscosity of the medium were changed. Basically, a glassy carbon sphere follows the perfect conductor theory but the charge amount was lower than theoretical prediction value. Also, we found some differences in charging characteristics of glassy carbon comparing with that of water droplet. We hope this results provides basic understandings on the solid sphere contact charging phenomenon.